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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/552,997	04/19/2000	Jeremy B. Gaylord	5038-42	4029

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EXAMINER	
JERABEK, KELLY L	

ART UNIT	PAPER NUMBER
2612	3

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/552,997	GAYLORD, JEREMY B.	
	Examiner	Art Unit	
	Kelly L. Jerabek	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 April 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,2,4,6,7,9,11, 12 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Wang US 6,118,817 in view of Ackland et al. US 5,739,562.

Re claim 1, Wang discloses a video signal encoder (fig. 1: 100). The video signal encoder includes a frame rate controller (fig. 1: 120) which adjusts the frame rate as necessary to prevent loss of frames due to exceeded bandwidth limitations (col. 15, lines 13-26). Wang also determines whether the frame rate is within a maximum or minimum threshold (col. 15, lines 26-67). If the frame rate does not fall within a desired range, the frame rate controller (fig. 1: 120) adjusts the frame rate accordingly (col. 15, lines 39-41; col. 15, lines 56-60). This process ensures that the computed frame rate will allow transfer of the video frames based on the bandwidth and the requested rate of transfer. However, Wang does not explicitly state that an integration time of pixels of the imager is determined from the computed bandwidth constrained frame rate.

Ackland discloses an active pixel sensor imaging system (fig. 1). The active pixel sensor collects generated charge carriers during the integration time (col. 4, lines 29-34). The integration time is determined by the frame rate (col. 4, lines 34-44).

Determining an integration time based on a bandwidth computed frame rate is advantageous because it helps to reduce noise and increase image quality. For this reason, it would have been obvious to include determining an integration time based on the frame rate as taught in Ackland in the video signal encoder disclosed by Wang. Doing so would provide a means for reducing the noise and improve the quality of images transferred over a constrained bandwidth.

Re claim 2, Ackland shows that the integration time is determined to result in the imager outputting video frames at a rate commensurate with the bandwidth constrained frame rate (col. 4, lines 34-44).

Re claim 4, Ackland states that the integration time is determined from a numerical inverse of the computed bandwidth constrained frame rate (col. 4, lines 38-39).

Re claim 6, Wang states that the video signal encoder (fig. 1: 100) executes within a server computer (fig. 11: 1102). See also (col. 18, lines 57-64). For the rest of claim 6, see claim 1.

Re claim 7, Wang states that the video signal encoder (fig. 1: 100) executes within a server computer (fig. 11: 1102). See also (col. 18, lines 57-64). For the rest of claim 7, see claim 2.

Re claim 9, Wang states that the video signal encoder (fig. 1: 100) executes within a server computer (fig. 11: 1102). See also (col. 18, lines 57-64). For the rest of claim 9, see claim 4.

Re claim 11, Wang states that the video signal encoder (fig. 1: 100) executes within a server computer (fig. 11: 1102). The video signals are transferred through a computer network (fig. 11: 1104). See also (col. 18, lines 57-64). For the rest of claim11, see claim 1.

Re claim 12, Wang states that the video signal encoder (fig. 1: 100) executes within a server computer (fig. 11: 1102). The video signals are transferred through a computer network (fig. 11: 1104). See also (col. 18, lines 57-64). For the rest of claim12, see claim 2.

Re claim 14, Wang states that the video signal encoder (fig. 1: 100) executes within a server computer (fig. 11: 1102). The video signals are transferred through a computer network (fig. 11: 1104). See also (col. 18, lines 57-64). For the rest of claim14, see claim 4.

Claims 3,8, and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Ackland and further in view of Voois US 6,404,776 .

Re claim 3, Wang in view of Ackland contains all of the limitations of claim 1. In addition, Wang mentions an encoded video signal (col. 15, lines 13-26). However, Wang in view of Ackland does not explicitly state that the bandwidth constrained frame rate is computed from a compression ratio of the imager.

Voois discloses a video codec (fig. 2: 50). The video compression standards mentioned by Voois show that an encoded video signal has a compression ratio (col. 5, lines 57-67). Determining the compression ratio of an encoded video signal is advantageous because the compression ratio can be used to compute a bandwidth constrained frame rate. For this reason, it would have been obvious to include the compression ratio of an encoded video image as taught in Voois in the video signal encoder disclosed by Wang in view of Ackland. Doing so would provide a means for reducing the noise and improve the quality of images transferred over a constrained bandwidth.

Re claim 8, Wang states that the video signal encoder (fig. 1: 100) executes within a server computer (fig. 11: 1102). See also (col. 18, lines 57-64). For the rest of claim 8, see claim 3.

Re claim 13, Wang states that the video signal encoder (fig. 1: 100) executes within a server computer (fig. 11: 1102). The video signals are transferred through a computer network (fig. 11: 1104). See also (col. 18, lines 57-64). For the rest of claim13, see claim 3.

Claims 5, and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Ackland and further in view of Leidig et al. US 5,822,625.

Re claim 5, Wang in view of Ackland contains all of the limitations of claim 1. However, Wang in view of Ackland does not explicitly state that a gain of the imager is determined from the determined integration time.

Leidig discloses a hybrid electronic-film camera (fig. 1). Leidig shows that a microcontroller (34) sets up the camera (10) at a calculated gain and integration time (col. 7, lines 46-52). The relationship of gain and integration time is advantageous because it is well known in the art that the determined integration time can be used to determine a gain that will optimize the signal to noise ratio. For this reason, it would have been obvious to include the relationship of gain and integration time as taught in Leidig in the video signal encoder disclosed by Wang in view of Ackland. Doing so would provide a means for reducing the noise and improve the quality of images transferred over a constrained bandwidth.

Re claim 10, Wang states that the video signal encoder (fig. 1: 100) executes within a server computer (fig. 11: 1102). See also (col. 18, lines 57-64). For the rest of claim 10, see claim 5.

Claim 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Ackland further in view of Leidig US 5,822,625.

Re claim 15, Wang in view of Ackland contains all of the limitations of claim 14. However, Wang in view of Ackland does not explicitly state that a gain of the imager is determined from the determined integration time.

Leidig discloses a hybrid electronic-film camera (fig. 1). Leidig shows that a microcontroller (34) sets up the camera (10) at a calculated gain and integration time (col. 7, lines 46-52). The relationship of gain and integration time is advantageous because it is well known in the art that the determined integration time can be used to determine a gain that will optimize the signal to noise ratio. For this reason, it would have been obvious to include the relationship of gain and integration time as taught in Leidig in the video signal encoder disclosed by Wang in view of Ackland. Doing so would provide a means for reducing the noise and improve the quality of images transferred over a constrained bandwidth.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lord et al. (US 6,108,447) discloses a method and apparatus for estimating frame rate for data rate control.

Kondo et al. (US 5,640,202) discloses an imaging system which changes the frame rate of the image signal.

Bishay et al. (US 6,256,350) discloses a method and apparatus for low cost line-based video compression of digital video stream data.

Sethuraman et al. (US 6,526,097) discloses frame-level rate control for plug-in video codecs.

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kelly Jerabek whose telephone number is (703) 305-8659. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's primary examiner, Wendy Garber can be reached at (703)-305-4929.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

The fax number for submitting all Official communications is (703) 872-9306.

The fax number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the Examiner at (703) 746-3059.

KLJ

VU LE
PRIMARY EXAMINER